

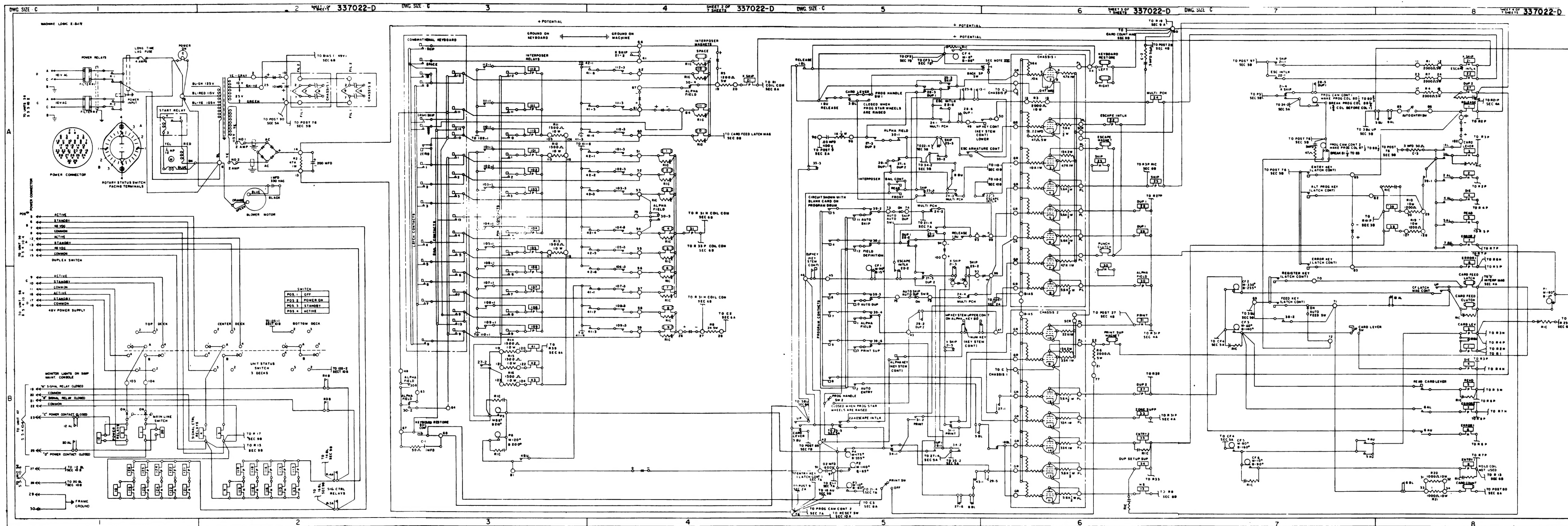
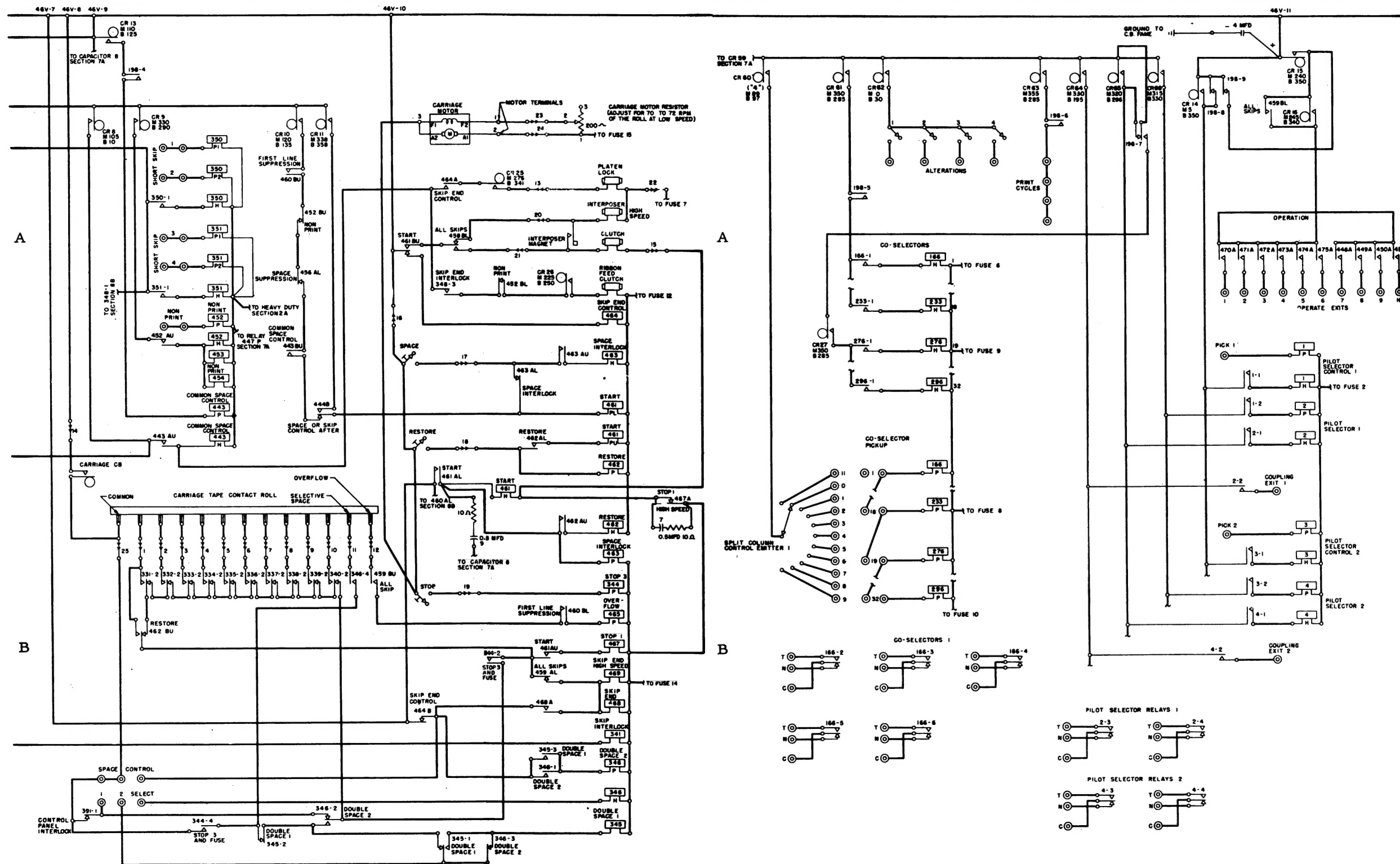
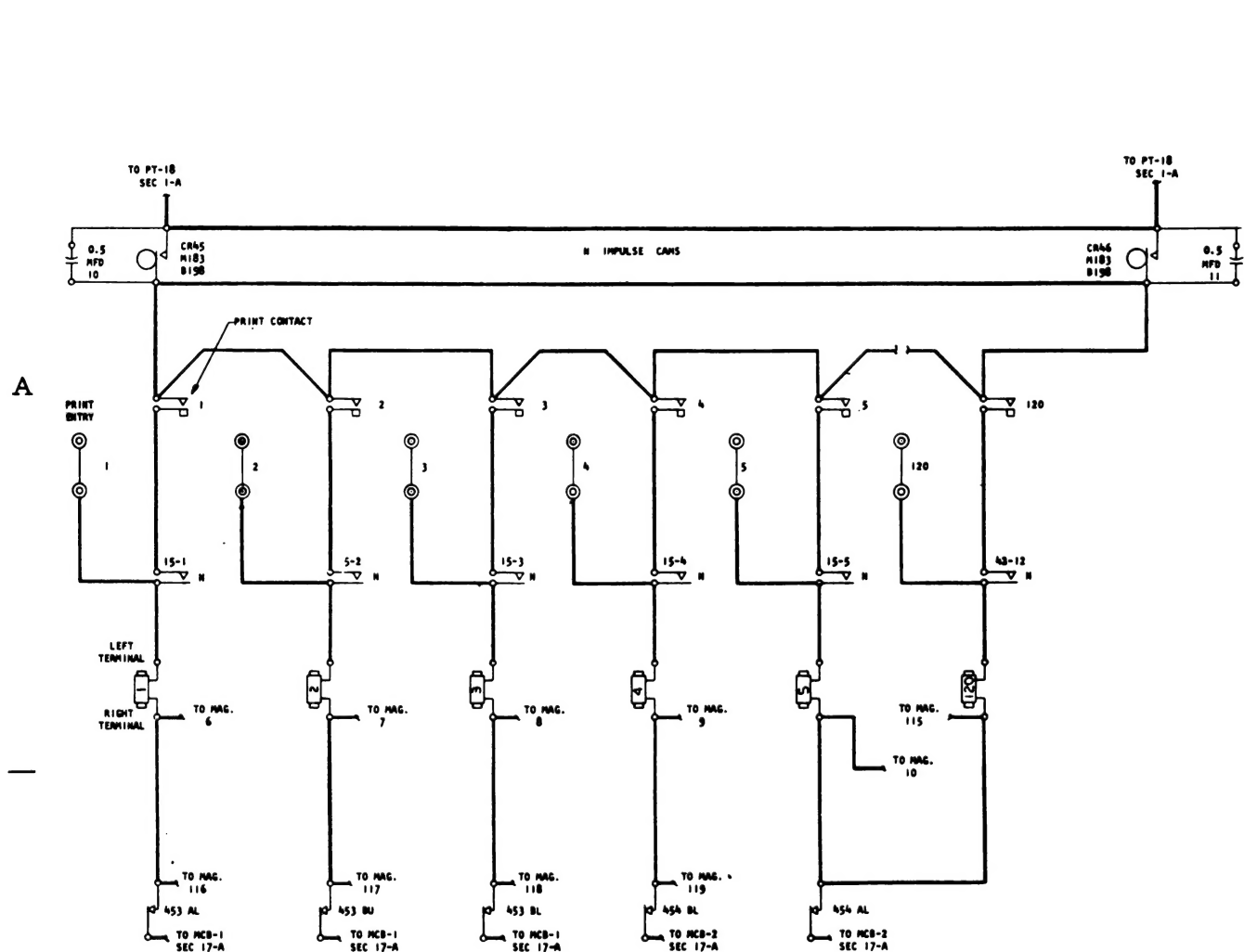


Figure A-1. 020 Computer Entry Pund. Wiring Diagram (Sheet 1)

Figure A-1. 020 Computer Entry Punch, Wiring Diagram (Sheet 2)



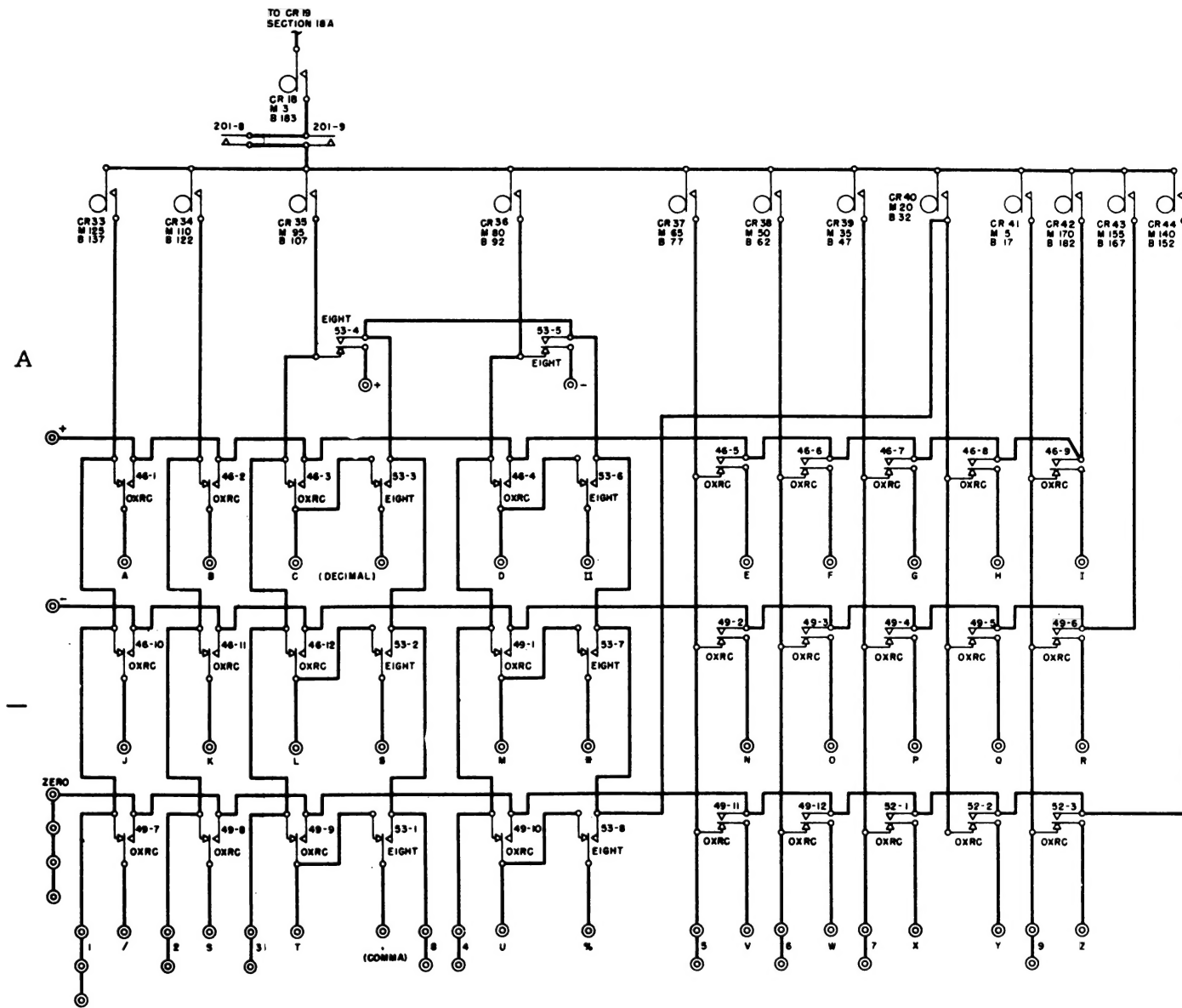




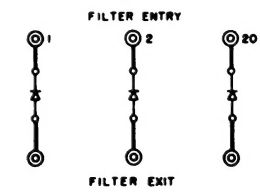
B

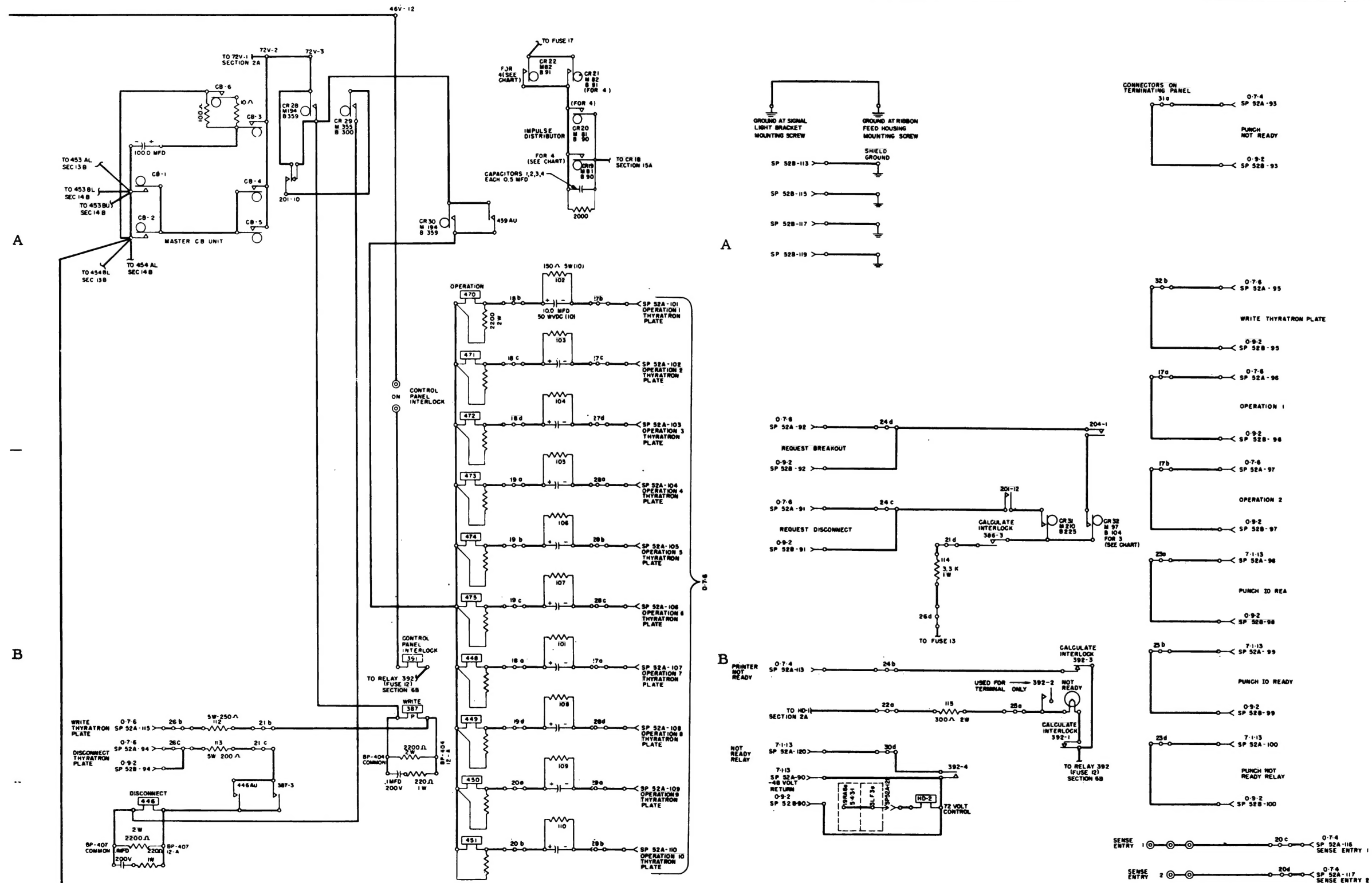
NOTE
THE RIGHT TERMINALS OF THE PRINT
MAGNETS ARE COMMON IN 5 HORIZONTAL
ROWS

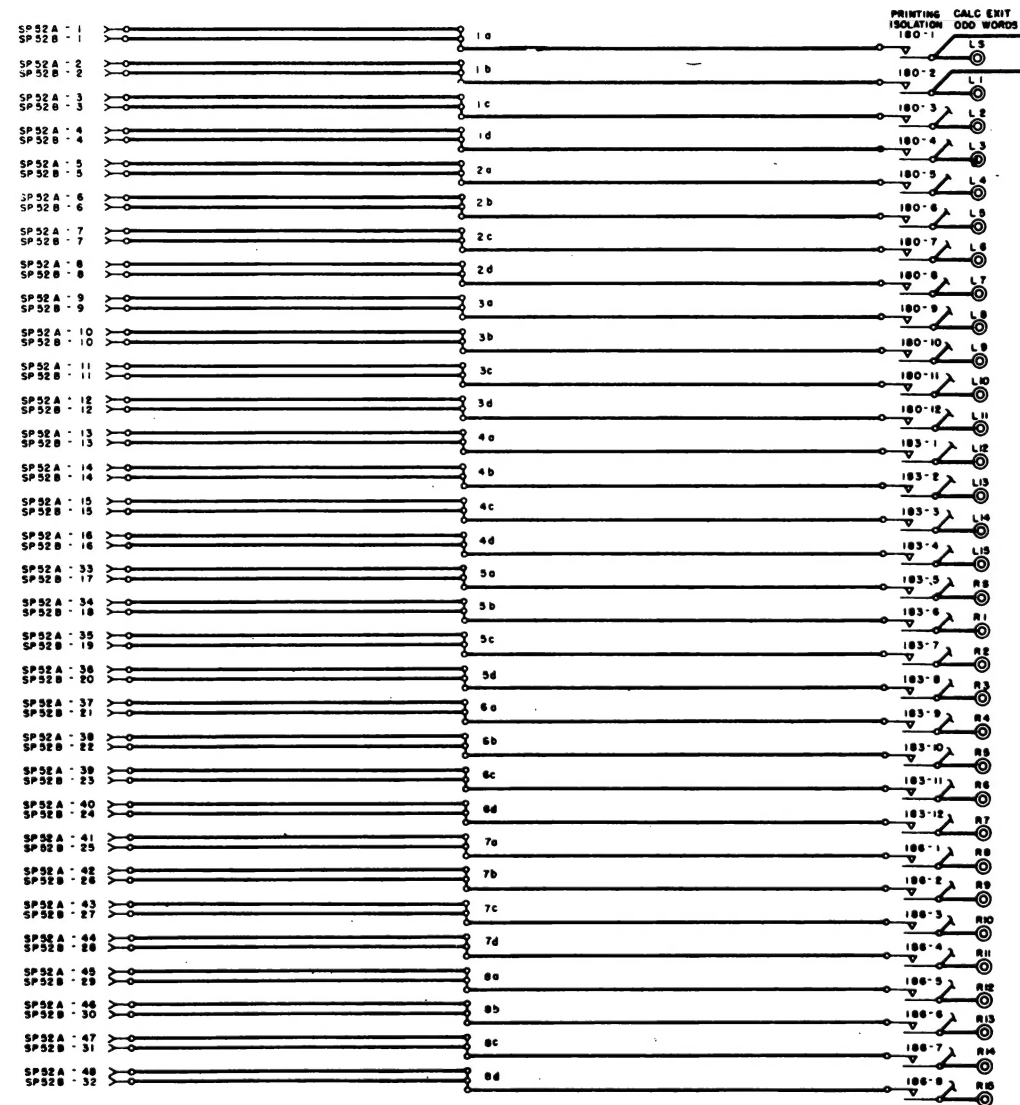
MAGNET	N RELAYS
1-12	15
13-24	18
25-36	21
37-48	24
49-60	27
61-72	30
73-84	33
85-96	36
97-108	39
109-120	42



B







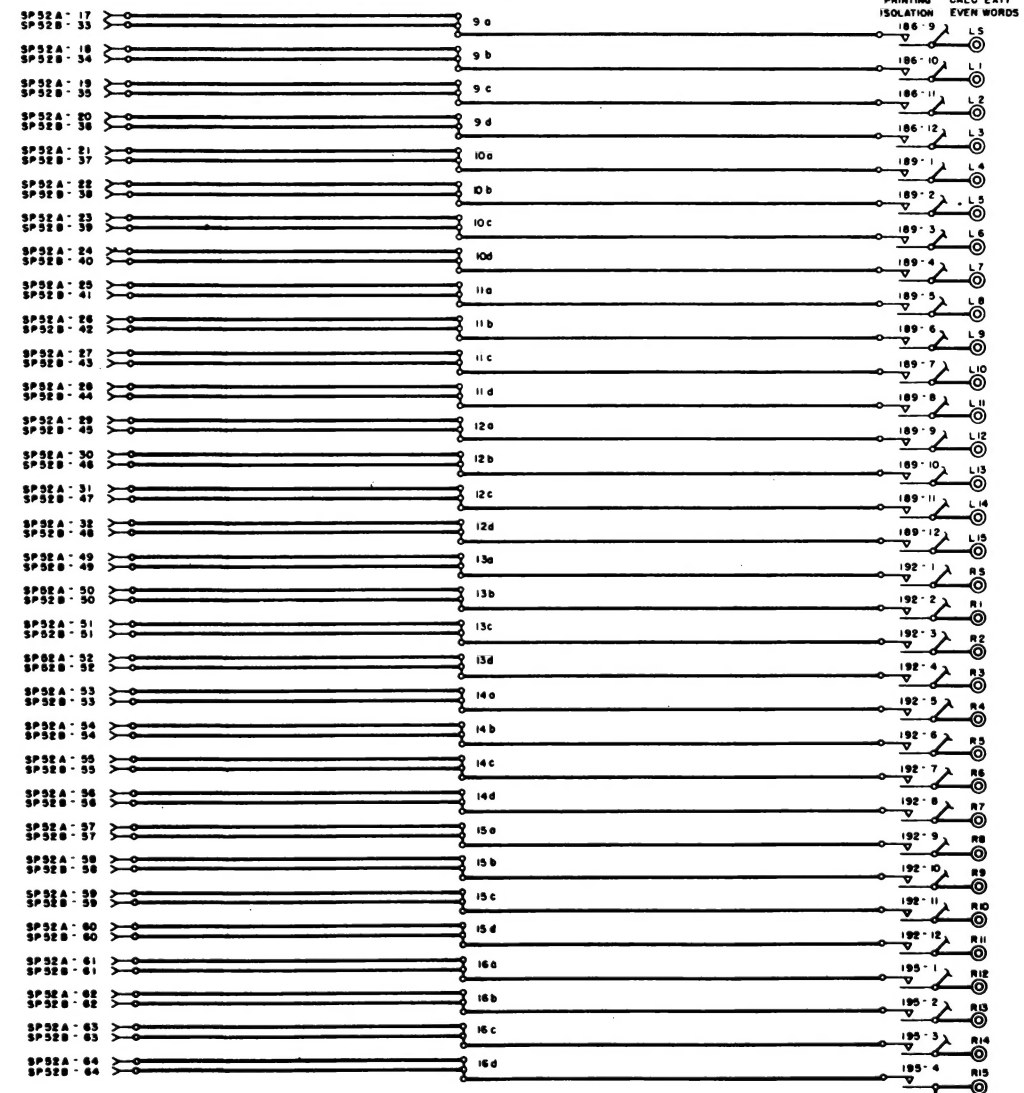
NOTE
SP52A LINES 1-64 CONNECT TO LOGIC NUMBER 0-76
SP52B LINES 1-64 CONNECT TO LOGIC NUMBER 0-92

SP 230-2

COMMON

SP 230-5

SP 230-12



NOTE
SP52A LINES 1-64 CONNECT TO LOGIC NUMBER 0-76
SP52B LINES 1-64 CONNECT TO LOGIC NUMBER 0-92

FUNCTIONAL CHART - SUMMARY PUNCH CONNECTIONS

SP 52A

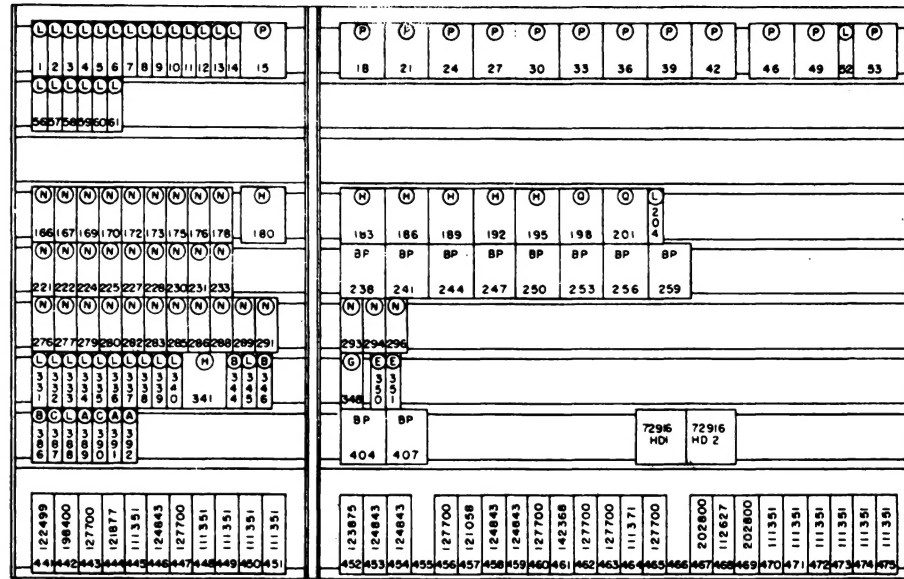
NO.	LOC.	NAME	HUB	FUNCTION
1-16 17-32	21A 23A	WRITE THYRATRON PLATE	ENTRY	SIGNAL WIRING FROM PLATE AT WRITE THYRATRONS LOCATED IN LEFT ARITHMETIC ELEMENT
33-34 35-48 49-50 51-64	21A 21B 23A 23B	WRITE THYRATRON PLATE	ENTRY	SIGNAL WIRING FROM PLATE AT WRITE THYRATRONS LOCATED IN RIGHT ARITHMETIC ELEMENT
90	19B	-48 VOLT RETURN	ENTRY	JUMPER TO SP52B 90 BRING -48 VOLT RETURN INTO PRINTER
91	19B	REQUEST DISCONNECT	ENTRY	CAM PULSE AFTER PRINT TIME REQUESTING DISCONNECT IF WRITE INSTRUCTION IS COMPLETE. ALSO JUMPER TO SP 52B
92	19A	REQUEST BREAKOUT	ENTRY	CAM PULSE AT INDEX TIME TO REQUEST TRANSFER FROM STORAGE. ALSO JUMPER TO SP 52B
93	20A	PUNCH NOT READY RELAY	ENTRY	JUMPER TO SP 52B
94	17B	DISCONNECT THYRATRON PLATE	ENTRY	PLATE LOAD TO 72 V LINE FOR DISCONNECT THYRATRON. ALSO JUMPER TO SP 52B
95	20A	WRITE THYRATRON PLATES	ENTRY	JUMPER TO SP 52B
96	20A	PUNCH OPERATION 1	ENTRY	JUMPER TO SP 52B
97	20B	PUNCH OPERATION 2	ENTRY	JUMPER TO SP 52B
98	20B	PUNCH I.O. READY	ENTRY	JUMPER TO SP 52B
99	20B	PUNCH I.O. READY	ENTRY	JUMPER TO SP 52B
100	20B	PUNCH NOT READY RELAY CONTROL	ENTRY	JUMPER TO SP 52B
101-103 104-10	18A 18B	OPERATION THYRATRON PLATES	ENTRY	PLATE LOAD TO 72 V LINE FOR OPERATION RELAYS
113	19B	PRINTER NOT READY	ENTRY	GROUND WHEN PRINTER IS NOT READY FOR USE BY COMPUTER
115	17B	WRITE THYRATRON PLATE	ENTRY	PLATE LOAD TO 72 V LINE FOR WRITE THYRATRON
116	20B	SENSE ENTRY 1	EXIT	TO SENSE ENTRY CONTROL PANEL HUB
117	20B	SENSE ENTRY 2	EXIT	TO SENSE ENTRY CONTROL PANEL HUB
118	6B	I.O. READY	EXIT	INPUT-OUTPUT-REMOTE START ON CONSOLE
119	6B	I.O. READY	ENTRY	INPUT-OUTPUT-REMOTE START ON CONSOLE
120	19B	PRINTER NOT READY RELAY	EXIT	GROUND TO NOT READY RELAY WHEN PRINTER CAN BE USED BY COMPUTER
121	19B	72 VOLT CONTROL		PICKS 72 VOLT CONTROL RELAY

ALL THYRATRONS ARE TYPE 2D21 TUBES OPERATING AT A + 72 V PLATE VOLTAGE

SP 52B

NO.	LOC.	NAME	HUB	FUNCTION
1-18 19-32 33-50 51-64	21A 21B 23A 23B	WRITE THYRATRON PLATES	EXIT	TO PUNCH MAGNETS
90	19B	-48 VOLT RETURN	ENTRY	TO PUNCH
91	19B	REQUEST DISCONNECT	EXIT	TO PUNCH
92	19B	REQUEST BREAKOUT	EXIT	TO PUNCH
93	20A	PUNCH NOT READY INTERLOCK	EXIT	TO PUNCH
94	17B	DISCONNECT THYRATRON PLATE	EXIT	TO PUNCH
95	20A	WRITE THYRATRON PLATES	EXIT	TO PUNCH
96	20A	PUNCH OPERATION 1	EXIT	TO PUNCH
97	20B	PUNCH OPERATION 2	EXIT	TO PUNCH
98	20B	PUNCH I.O. READY	EXIT	TO PUNCH
99	20B	PUNCH I.O. READY	EXIT	TO PUNCH
100	20B	PUNCH NOT READY RELAY CONTROL	EXIT	TO PUNCH
113	19A	SHIELD GROUND	GROUND	PUNCH TO PRINTER CABLE
115	19A	SHIELD GROUND	GROUND	PUNCH TO PRINTER CABLE
117	19A	SHIELD GROUND	GROUND	PUNCH TO PRINTER CABLE
119	19A	SHIELD GROUND	GROUND	PUNCH TO PRINTER CABLE

RELAY GATE



WIRE CONTACT RELAYS

CODE	SIZE	COILS	COIL NO	ASSEMBLY NO	NAME
(A)	FOUR	ONE	198881	196206	STANDARD
(B)	FOUR	TWO	198884	196207	STANDARD
(C)	FOUR	TWO	198887	196208	HIGH RESISTANCE HOLD
(E)	FOUR	THREE	186693 186259 186260	186696	HIGH SPEED PICK UP
(F)	SIX	ONE	198882	196196	STANDARD
(G)	SIX	TWO	198885	196197	STANDARD
(H)	TWELVE	ONE	198883	196186	STANDARD
(J)	TWELVE	TWO	198886	196187	STANDARD
(L)	FOUR	TWO	228881	104753	HIGH SPEED PICK UP
(M)	SIX	ONE	107559	107558	HIGH SPEED PICK UP
(N)	SIX	TWO	107566	107560	HIGH SPEED PICK UP
(P)	TWELVE	ONE	107557	107556	HIGH SPEED PICK UP
(Q)	TWELVE	TWO	108386	108388	HIGH SPEED PICK UP

MISCELLANEOUS LOCATIONS

RESISTOR	OHM RATING	PART NO.	LOCATION
V. CONTROL	15	123822	2-A
22V. SUPPLY	100	107798	3-A
TIMER	67K	180846	3-B
TIMER	470	7174-22	3-B
TIMER	.51 MEG	300734	3-B
TIMER	6.8K	301818	3-B
TIMER	1.8K	213714	3-B
TIMER	150K	213539	3-B
TIMER	220K	103194	3-B
CARRIAGE	200	159317	10-A
MASTER CB	100	234220	17-A
MASTER CB	10	234220	17-A
CR19	2000	317020	18-A
OPER. RELAYS	2200	234458	18-A
101 THRU 110	150	337426	18-A
111	300	253527	2-A
112	250	315749	17-B
113	200	337422	17-B
114	3.3K	317055	19-B
115	300	334931	19-B
BP404 AND 407	2200	234457	18-B
BP404 AND 407	220	234474	18-B
BP238-259	220	234474	22-B

JONES PLUG-CARRIAGE	LOCATION
1 THRU 12, 25	9-B
13	10-A
14	2-A
15 THRU 18, 20 THRU 24	10-A
19	10-B
26, 30	5-A
26, 27, 29	NOT USED

SIGNAL LIGHT	LOCATION
FUSE	5-B
POWER	6-B
WRITE	6-B
NOT READY	19-B
POWER ON	2-A

SWITCHES	LOCATION
ALTERATION 1-4	11-A
FOUR STOP	5-A
AUXILIARY START	5-A
DRIVE CLUTCH	6-A
STOP BEFORE PRINT	5-A
TEST	5-A

CARRIAGE SWITCH	LOCATION
SPACE	10-A
RESTORE	10-B
STOP	10-B

KEYS	LOCATION
AUTO START	5-B
PRINT CYCLES	5-A
STOP	5-B

MISCELLANEOUS	LOCATION
MASTER CB	17-A
LINE SWITCH	1-A

TIMER TUBE	PART NO.
REL7	200913

FUSE	AMP RATING	PART NO.
PF-1	10	52599
PF-2	10	52599
PF-3	5	123786
PF-4	5	123786
PF-5	7.5TL	190424
PF-6	7.5TL	190424
PF-7	7.5TL	190424
PF-8	7.5TL	190424
PF-9	7.5TL	190424
LINE FUSE	5AMP	100000
BLOWER MOTOR	7.5	111264
POWER SUPPLY DC	3.1TL	87881
POWER SUPPLY PRIMARY	1.3	52599
FUSE 15	1.6TL	79951

CAPACITOR	MFD RATING	PART NO.	LOCATION
1 THRU 4	0.5	100742	18-A
5	0.5	176407	6-A
6	0.5	100742	6-A
7	0.5	176407	10-B
8	0.5	100742	7-A
9	0.5	176407	10-B
10	0.5	100742	13-A
11	0.5	100742	14-A
12	4.0	237034	2-A
101 THRU 110	10.0	317359	18-B
72 V SUPPLY	5000	437137	3-A
TIMER	4.0	206592	3-B
TIMER	4.0	206592	4-B
TIMER	0.0005	206592	3-B
MASTER CB	100.0	255911	17-A
B-446	0.1	326372	17-B
B-387	0.1	326372	18-B
BP238-259	SHORT 0.1 LONG 0.1	326372	22-B
CR 19	4.0	121987	12-A

H.D. RELAY	PART NO.	POINT	COIL
1	72916	2A	2A
2	72916	2A	19B

BINDER POST	PART NO.	LOCATION
238	234473	22-B
241-256	234473	18-B
259	234473	22-B
404	234459	18-B
407	234459	17-B

WIRE CONTACT RELAY CHART

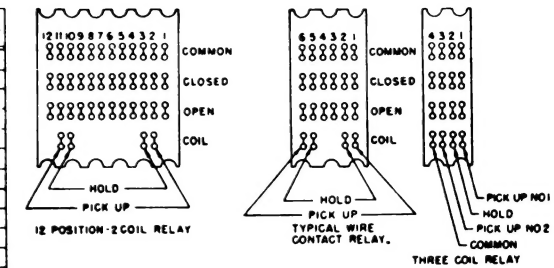
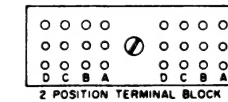
RELAY NO.	COILS PU1 PU2 H	CONTACT POINTS												NAME		SIZE	TYPE
1	12A	12A	12A	12A	12B	12B	12B							PILOT SELECTOR CONTROL 1		4	L
2	12A	12A	12A	12A	12B	12B	12B							PILOT SELECTOR 1		4	L
3	12B	12B	12B	12B	12B	12B	12B							PILOT SELECTOR CONTROL 2		4	L
4	12B	12B	12B	12B	12B	12B	12B							PILOT SELECTOR 2		4	L
5																	
THRU 14	NS													PILOT SELECTORS		4	L
15	6A		13A	13A	13A	14A	14A	NS						"N" POSITIONS 1 THRU 12		12	P
16	6A		NS											"N" POSITIONS 13 THRU 24		12	P
21	6A		NS											"N" POSITIONS 25 THRU 36		12	P
24	6A		NS											"N" POSITIONS 37 THRU 48		12	P
27	6A		NS											"N" POSITIONS 49 THRU 60		12	P
30	6A		NS											"N" POSITIONS 61 THRU 72		12	P
33	6A		NS											"N" POSITIONS 73 THRU 84		12	P
36	6A		NS											"N" POSITIONS 85 THRU 96		12	P
39	6A		NS											"N" POSITIONS 97 THRU 108		12	P
42	6A		NS											"N" POSITIONS 109 THRU 120		12	P
46	6B		15A	15A	15A	15A	16A	16A	16A	16A	16A	15A	15A	CHARACTER EMITTER OXRC POSITIONS		12	P
49	6B		15A	16A	16A	16A	16A	16A	15B	15B	15B	15B	16B	CHARACTER EMITTER OXRC POSITIONS		12	P
52	6B		16B	16B	16B									CHARACTER EMITTER OXRC POSITIONS		4	L
53	6A		15B	15A	15A	15A	15A	15A	15A	15B				CHARACTER EMITTER "EIGHT" POSITIONS		12	P
56																	
THRU 61	NS													PILOT SELECTORS		4	L
62																	
THRU 105	NOT USED																
106	11B		11A	11A	11B	11B	11B	11B	11B					CO-SELECTOR 1		6	N
167														CO-SELECTOR 2		6	N
THRU 178	NS													CO-SELECTOR 9		6	N
180	7A		22A	22A	22A	22A	22A	22A	22A	22A	22A	22A	22A	PRINTING ISOLATION		12	H
183	7A		22A	22A	22A	22A	22A	22B	22B	22B	22B	22B	22B	PRINTING ISOLATION		12	H
186	7A		22B	22B	22B	22B	22B	22B	22B	24A	24A	24A	24A	PRINTING ISOLATION		12	H
189	7A		24A	24A	24A	24A	24A	24A	24A	24A	24A	24A	24A	PRINTING ISOLATION		12	H

WIRE CONTACT RELAY CHART

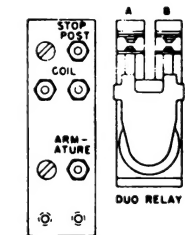
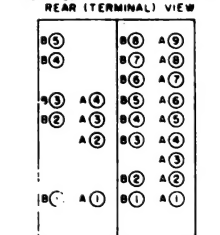
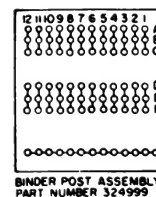
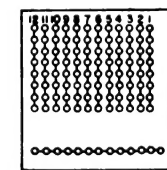
RELAY NO.	COILS			CONTACT POINTS												NAME	SIZE	TYPE
	PU 1	PU 2	H	1	2	3	4	5	6	7	8	9	10	11	12			
192	7A			24A	24B	24B	24B	24B	24B	24B	24B	24B	24B	24B	24B	PRINTING ISOLATION	12	H
195	7A			24B	24B	24B	24B									PRINTING ISOLATION	12	H
198	5A		5A	7A	8A	9A	11A	11A	12A	12A	12A					NS	12	Q
201	5A		5A	NS								15A	15A	17A	19B	CF CAM CONTROL	12	Q
204	5A		5A	19A												CF CAM CONTROL	4	L
205																		
THRU	NOT USED																	
220																		
221																CO-SELECTOR 10	6	N
THRU																		
231				19A												CO-SELECTOR 17	6	N
233	11B		11A	11A	NS											CO-SELECTOR 18	6	N
235																		
THRU	NOT USED																	
275																		
276	11B		11A	11A	NS											CO-SELECTOR 19	6	N
277																CO-SELECTOR 20	6	N
THRU	NS																	
294																CO-SELECTOR 31	6	N
295	11B		11A	11A	NS											CO-SELECTOR 32	6	N
297																		
THRU	NOT USED																	
330																		
331	8A		8A	8A	9B	5A	8B									TAPE CHANNEL CONTROL 1	4	L
332	8A		8A	8A	9B	5A	8B									TAPE CHANNEL CONTROL 2	4	L
333	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 3	4	L
334	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 4	4	L
335	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 5	4	L
336	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 6	4	L
337	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 7	4	L
338	NS		NS	NS	9B	NS	NS									TAPE CHANNEL CONTROL 8	4	L
339	8A		8A	8A	9B	5A	8B									TAPE CHANNEL CONTROL 9	4	L
340	8A		8A	8A	9B	5A	8B									TAPE CHANNEL CONTROL 10	4	L
341	10B			8A	8A	NS						8A	8A			SKIP INTERLOCK	12	H
344	10B		5B	5B	10B		9B									CARRIAGE STOP 3 AND FUSE BLOWN	4	B
345	10B			10B	9B	10B										DOUBLE SPACE 1	4	L
346	10B		10B	10B	9B	10B	9B									DOUBLE SPACE 2	4	B
348	8B		8B	8B	8A	10A	8B									SKIP END INTERLOCK	6	G
350	9A	9A	9A	9A	5A											SHORT SKIP 1	4	E
351	9A	9A	9A	9A	5A											SHORT SKIP 2	4	E
352																		
THRU	NOT USED																	
385																		
386	6B		6B	6B	5A	19B	6B									CALCULATOR INTERLOCK	4	B
387	18B		6B	5B	5A	17B	7A									WRITE	4	C
388	6A		6A	6A		5A	7A									AUTO START	4	L
389	6A			5B	5B											FORM STOP	4	A
390	6B		6A	6A	6B											POSITIVE STOP	4	C
391	18B			9B	5B											CONTROL PANEL INTERLOCK	4	A
392	6B			19B	19B	20B	19B									CALCULATOR INTERLOCK	4	A
393																		
THRU	NOT USED																	
440																		

DUO RELAY CHART

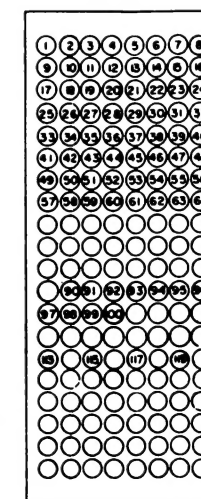
RELAY NO.	COILS			CONTACT POINTS												NAME	TYPE
	PU	PL	H	A	AU	AC	AL	B	BU	BC	BL						
441	4A			3A	3A	3A		2A	2A	2A						IDLING CONTROL	S
442	6A		6A	6A	6A		4A									DRIVE CLUTCH	D
443	9A		9A	9A			9A									COMMON SPACE CONTROL	D
444	8B		8B				9A									CONTROL AFTER SPACE OR SKIP	D
445	2A		2A				5B									POWER ON	S
446	17B		17B					5B								DISCONNECT	D
447	7A		7A				7A									PRINTING ISOLATION CONTROL	D
448	18B			12A												OPERATION 7	S
449	18B			12A												OPERATION 8	S
450	18B			12A												OPERATION 9	S
451	18B			12A												OPERATION 10	S
452	9A		9A	9A				9A			10A					NON PRINT	D
453	9A			6A		13B		14B			14B					NON PRINT	S
454	NS			NS		14B		NS			13B					NON PRINT	S
456	8B		8B		8B		9A									SPACE SUPPRESSION	D
457	8B		8B	8B				8B								EXTRA SPACE AFTER PRINTING	D
458	8A			8A				8B			10A					ALL SKIPS	S
459	8A			18A		10B		9B			12A					ALL SKIPS	S
460	8B		8B	8B		8B		9A			10B					FIRST LINE SUPPRESSION	D
461	10A	10A	10B		10B		10B		10A							CARRIAGE START	T
462	10B		10B		10B		10A		9B		8B					CARRIAGE RESTORE	D
463	10B		10A		10A		10A									SPACE INTERLOCK	D
464	10A		10A		10A			10B								SKIP END CONTROL	S
465	10B		8A		8A		8B									OVERFLOW	D
467	10B			10B												STOP 1	S
468	10B			10B												SKIP END	S
469	10B		8A													SKIP END	S
470	18A			12A												OPERATION 1	S
471	18A			12A												OPERATION 2	S
472	18A			12A												OPERATION 3	S
473	18B			12A												OPERATION 4	S
474	18B			12A												OPERATION 5	S
475	18B			12A												OPERATION 6	S

RELAY TERMINAL BLOCKS
(REAR VIEW)

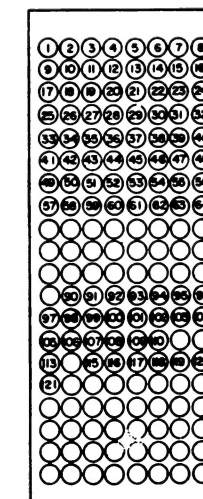
2 POSITION TERMINAL BLOCK

REPRESENTATIVE DUO RELAYS
(REAR TERMINAL) VIEWHIGH SPEED RELAY
(TERMINAL VIEW)BINDER POST ASSEMBLY
PART NUMBER 3249994 POSITION JONES PLUG
(FEMALE)BINDER POST ASSEMBLY
(MOUNTED ON RELAY GATE)
PART NUMBER 324795SUMMARY PUNCH RECEPTACLE
CONTACT SIDE

SP 52B



SP 52A

MOUNTED VERTICALLY
(UNNUMBERED CONNECTIONS NOT USED)

CO-SELECTORS	RELAYS
1	166
2	167
3	169
4	170
5	172
6	173
7	175
8	176
9	178
10	221
11	222
12	224
13	225
14	227
15	228
16	230
17	231
18	233
19	276
20	277
21	279
22	280
23	282
24	283
25	285
26	286
27	288
28	289
29	291
30	293
31	294
32	296

PILOT SELECTORS	RELAYS
1	1,2
2	3,4
3	5,6
4	7,8
5	9,10
6	11,12
7	13,14
8	56,57
9	58,59
10	60,61

NOTE
SPLIT COLUMN EMITTER BRUSH TIMING MUST
OVERLAP CR60 BY A MAXIMUM OF 8° MINIMUM
OF 2° (4° (1°) BEFORE MAKE, 4° (1°) AFTER BREAK)

CAN NO.	LOC	NAME	CAN PART NO.	MAKE TIME	TOL. IN DEG.	BREAK TIME	TOL. IN DEG.
1	4A	DRIVE CLUTCH	182330	145	±1	115	±2
2	7A	SKIP END INTERLOCK	182012	218	±1	230	±2
3	8A	EXTRA SPACE HOLD	182325	5	±2	330	±2
4	8A	SPACE SUPPRESSION HOLD	182179	320	±1	140	±2
5	8A	EXTRA SPACE CONTROL	182070	280	±1	350	±2
6	8A	SHORT SKIP HOLD	182335	13	±2	348	±1
7	8A	SKIP INTERLOCK	182085	230	±1	315	±2
8	9A	COMMON SPACE CONTROL HOLD	182265	105	±2	10	±1
9	9A	NON-PRINT	182320	330	±1	290	±2
10	9A	CARRIAGE START SPACE	182014	120	±1	135	±2
11	9A	CARRIAGE START SKIP	182020	338	±1	358	±2
12	8A	FIRST LINE SPACE SUPPRESSION	182020	215	±1	235	±2
13	9A	COMMON SPACE CONTROL	182014	110	±1	125	±2
14	12A	PILOT SELECTOR CONTROL HOLD	182345	5	±2	350	±1
15	12A	OPERATE EXIT HOLD	182110	240	±2	350	±1
16	12A	OPERATE EXIT IMPULSE	182095	245	±1	340	±2
18	15A	CHARACTER EMITTER COMMON	182179	3	±2	183	±2
19	18A	IMPULSE DISTRIBUTOR	321962	SEE CHART	±1/2	SEE CHART	±1/2
20	18A	IMPULSE DISTRIBUTOR	321962	SEE CHART	±1/2	SEE CHART	±1/2
21	18A	IMPULSE DISTRIBUTOR	321962	SEE CHART	±1/2	SEE CHART	±1/2
22	18A	IMPULSE DISTRIBUTOR	321962	SEE CHART	±1/2	SEE CHART	±1/2
23	7A	ISOLATION RELAY PICK	182030	320	±1	350	±2
24	8A	ALL SKIPS HOLD	182315	5	±1	320	±2
25	10A	PLATEN LOCK MAGNET	182065	276	±1	341	±1
26	10A	RIBBON FEED CLUTCH	182025	325	±1	250	±1
27	11A	CO-SELECTOR HOLD	182295	350	±2	285	±1
28	17A	WRITE AND OPERATE THYRATRON HOLD	182165	194	±1	359	±2
29	17A	DISCONNECT THYRATRON HOLD	182305	355	±1	300	±2
30	18A	OPERATE THYRATRON BREAK	182165	194	±1	359	±2
31	19B	REQUEST DISCONNECT	182014	210	±1	225	±2
32	20B	REQUEST BREAKOUT	321962	SEE CHART	±1	SEE CHART	±1/2
		SPLIT COLUMN EMITTER		SEE CHART	±2	SEE CHART	±1
33	15A	CE PRINT 1	182012	125	±1	137	±1
34	15A	CE PRINT 2	182012	110	±1	122	±1
35	15A	CE PRINT 3	182012	95	±1	107	±1
36	15A	CE PRINT 4	182012	80	±1	90	±1
37	16A	CE PRINT 5	182012	65	±1	77	±1
38	16A	CE PRINT 6	182012	50	±1	68	±1
39	16A	CE PRINT 7	182012	35	±1	47	±1
40	16A	CE PRINT 8	182012	20	±1	32	±1
41	16A	CE PRINT 9	182012	5	±1	17	±1
42	16A	CE PRINT 12	182012	170	±1	182	±1
43	16A	CE PRINT 11	182012	155	±1	167	±1
44	16A	CE PRINT 0	182012	140	±1	152	±1
45	13A	"M" IMPULSE FILTER	182014	183	±1	198	±1
46	14A	"M" IMPULSE FILTER	182014	183	±1	198	±1
49	5A	CF IMPULSE	182030	320	±1	350	±2
50	5A	AUTO START HOLD	182325	280	±2	245	±1
51	5A	CF CYCLE HOLD	182345	337	±2	322	±1
52	5A	AUTO START PICK	321983	305	±1	315	±2
53	5A	DRIVE CLUTCH RELAY HOLD	182345	305	±2	290	±1
54	6A	EIGHT RELAY CONTROL	182014	18	±1	33	±2
55	6A	ONE RELAY CONTROL	182045	135	±2	180	±1
56	6A	"M" RELAY CONTROL	182115	180	±1	295	±2
58	7A	PH ISOLATION RELAY	182195	355	±2	190	±1
59	7A	ISOLATION RELAY HOLD	182330	345	±2	315	±1
60	11A	OFFSET EMITTER CONTROL	321962	SEE CHART	±1/2	SEE CHART	±1/2
61	11A	CO-SELECTOR HOLD	182295	350	±2	285	±1
62	11A	ALTERATIONS IMPULSE	182030	0	±1	30	±2
63	11A	PRINT CYCLES IMPULSE	182290	355	±1	285	±2
64	12A	PILOT SELECTOR COUPLING EXIT	182225	330	±1	195	±2
65	12A	PILOT SELECTOR HOLD	182325	320	±2	286	±1
66	12A	PILOT SELECTOR PICKUP	182014	315	±1	330	±2

